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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,437	09/25/2003	Ki Su Hong	P24307	4263

7055 7590 07/19/2004

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EXAMINER

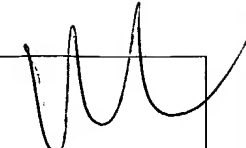
NORMAN, MARC E

ART UNIT	PAPER NUMBER
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3744

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/669,437	Applicant(s) HONG ET AL. 	
	Examiner Marc E. Norman	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 1, as written, it is indefinite as to the actual functions performed by the first and second means.

Regarding the first means, the claim recites a "first means selectively guiding the refrigerant introduced thereto through the first or second pipeline to be discharged through the second or first pipeline...." As written, this implies that refrigerant could simultaneously be introduced through the first pipeline and also discharged through first pipeline. However, such a scenario does not make sense and also does not correspond to the invention disclosed in Applicant's specification. Further, it is unclear as to exactly what the adverb "selectively" modifies. As written, it appears only to modify the verb "guiding." Accordingly, the refrigerant could simply be passed through one of both or either of the heat exchangers (and not necessarily being able to be selectively altered to be passed through another of both or either of the heat exchangers), without that passing being selectively controlled by the first means. According to the disclosed invention, however, whether the refrigerant passes through the first heat exchanger only, the second heat exchanger only, or both heat exchangers is an integral function performed

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by the first means. The claim language should be amended to more clearly recite this fact.

Clarification on these points is required.

Regarding the second means, it is unclear as to whether the passing "in an original state or in an expanded state" is selectively controlled by the second means, or whether the system could simply be capable of performing one or the other (e.g., a simple pipe between the heat exchangers would satisfy the condition that the refrigerant is passed in it's original state). Based on Applicant's written disclosure, it appears to the Examiner that the Applicant intended that the state of the refrigerant be selectively controlled by the second means. If such is the case, the limitation should be amended to more clearly indicate so. (For example, the word "selectively" could simply be inserted before the word "passed" in the last line of the claim.) Clarification is required.

Claim 11 recites similar language as claim 1, and is rejected for similar reasons.

Claims 2-10 and 12-20 depend from claims 1 and 11, respectively, and are thus also rejected as reciting the indefinite language discussed above.

#### ***Allowable Subject Matter***

Claims 1-20 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

#### ***Conclusion***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 703-305-2711. The examiner can normally be reached on Mon.-Fri., 8:00-5:30, with first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on 703-308-2597. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MN



**MARC NORMAN**  
**PRIMARY EXAMINER**